



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,906	10/12/2004	Paul A. Bogdans	71368-0073	5905
20915	7590	03/29/2005	EXAMINER	
MCGARRY BAIR PC 171 MONROE AVENUE, N.W. SUITE 600 GRAND RAPIDS, MI 49503			LE, HOANGANH T	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/711,906

Applicant(s)

BOGDANS ET AL.

Examiner

HoangAnh T. Le

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamabayashi et al (the US Patent No. 5,969,690).

The Yamabayashi et al reference teaches in figure 18 a multiband antenna comprising a lower conductive tube and first 36, second, and third upper conductive tubes 35, all of the conductive tubes spaced from each other and disposed on the same longitudinal axis, a first transmission line extending within the lower conductive tube to a first feed point located between and connected to the lower conductive tube and the first upper conductive tube, a second transmission line extending within the lower conductive tube and the first and second upper conductive tubes to a second feed point located between and connected to the second and third upper conductive tubes, and an isolation circuit 37 connected between the first and second upper conductive tubes, wherein the isolation circuit resonates only at a lower frequency band, whereby the lower conductive tube and the first, second, and third upper conductive tubes form a

dipole radiator centered on the first feed point that resonates in the lower frequency band for signals transmitted along the first transmission line, and the second and third upper conductive tubes form a dipole radiator centered on the second feed point that resonates in a higher frequency band for signals transmitted along the second transmission line (col. 8, lines 55-64). The first transmission line is coaxial and a balun is connected at the first feed point (since the outer conductor of the cable is connected the sleeve at the feed point as shown in figure 2, and this structure is known as a balun (see US Patent 6,483,471, col. 3, lines 25-30)).

Regarding claim 5, the recitation "the lower frequency band is 30-88 MHz and the higher frequency band is 225-450 MHz" is merely intended use which fails to patentably distinguish the claim.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamabayashi et al (cited above) in view of Ha et al (the US Patent No. 6,054,962).

The Yamabayashi et al reference teaches every feature of the claimed invention, excluding the isolation circuit being an inductance-capacitance circuit.

The Ha et al reference teaches in figures 2 and 3 the use of a isolation circuit being an inductance-capacitance circuit (col. 4, lines 34-47) in order to improve the performance and bandwidth of the antenna (col. 2, line 62).

Since one of ordinary skill in the art would recognize the benefit of improving the performance and bandwidth of the antenna, it would have been obvious to provide Yamabayashi et al with the Isolation circuit being an inductance-capacitance circuit as taught by Ha et al.

***Allowable Subject Matter***

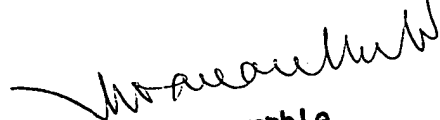
6. Claim 6 is allowed.
7. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: none of the cited art discloses the isolation circuit comprising a capacitor connected in parallel with an inductor, and both are connected in series with another capacitor; or a third transmission line extending within the second upper conductive tube from the second feed point to a third feed point located between and connected to the first and second upper conductive tubes, a fourth transmission line extending within the third upper conductive tube from the second feed point to a fourth feed point located between and connected to the third and fourth upper conductive tubes and isolation circuits connected between the upper conductive tubes, wherein the lower conductive

tube and the upper conductive tubes form a center-fed low frequency dipole radiator, centered on the first feed point, that resonates in a lower frequency band for signals transmitted along the first transmission line, and wherein the first and second upper conductive tubes form a 1st high frequency dipole radiator centered on the third feed point, and the third and fourth upper conductive tubes form a 2nd high frequency dipole radiator centered on the fourth feed point, the 1st and 2nd high frequency dipole radiators resonating in a higher frequency band for signals transmitted along the second transmission line by way of the second feed point.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Hoanganh Le  
Primary Examiner